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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,798	06/27/2003	Valentine J. Rhodes	42P16728	6505

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

QURESHI, AFSAR M

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/607,798

Applicant(s)

RHODES, VALENTINE J.

Examiner

Afsar M. Qureshi

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/8/2005</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 1-13. The claimed invention is directed to non-statutory subject matter.

In claims 1-4 and 6, “that is used” or “wherein the guard interval is adjusted...dynamically changes...” or “a target node determines...” can be interpreted as process claims. These claims provide for the use of adjusting a guard interval of a packet..., but since the claim does not set forth any steps involved in the process, it is unclear what process application is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. Claims 1-13 are rejected under 35 USC § 101 because the claimed recitation of a use without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 USC § 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd. App. 1967).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-13, 15 and 16 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The category of these claims is unclear. These claims are written as "System claims", however, it appears as if these are method claims for the reasons set forth above (rejection under 35 USC 101).

For instance, claim 1 should be formulated as --a processor adapted to adjust --.

3. Claim 1 is formulated as "single means", rejectable under 112 6th paragraph.
4. Claims 6, 7, 9, 10, 12 and 13. It is not clear if the target node or the source node or other nodes are elements of the claimed communication system which renders the scope of the claim unclear.
5. Claim 11 recites the limitation "**the** source node" in line 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

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6. Claim 17. The method steps of the claim seem to be indefinite and disjointed, it is not clear if "recurrent channel delay spread knowledge updates to reveal dynamic variation" is part of the claimed method.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by (Sony International) Konschak et al. ('Konschak' hereinafter).

Claim 1. Konschak discloses a first apparatus 9 (fig. 4), having a processor (estimating means 16) adapted to adjust a guard interval of a packet prior to transmission (see [0020]-[0021],[0024]-[0026]).

Claims 2-5 and 9. Konschak discloses guard interval is adjusted by appending a cyclic prefix, cyclic suffix and both to the packet that dynamically changes with updated channel delay spread knowledge wherein the system is time division duplex OFDM system (see [0018] and [0027],[0027]).

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Claims 6, 7 and 10-13. Korschak discloses target node (fig. 5) determines the guard interval from a source transmission to set the interval and source node (fig. 4) determines the guard interval from a target transmission, to set the guard interval. (see [0011],[0030]).

Claims 8, 15. Korschak discloses steps of monitoring and setting up the guard interval and removing ISI as claimed herein (see [0014]).

Claims 14, 16. In addition to limitations discussed in the rejection of claim 1 above, Korschak also discloses a preset table containing delay values and corresponding length values for the cyclic extensions but does not specifically disclose a static RAM. However, in a basic structure of the OFDM receiver system a DSP chip and a field programmable gate array (FPGA) chip is programmed to sequentially performs various kinds of synchronization, equalization, demapping and disinterleaving wherein the external hardware inherently includes a memory device such as SRAM table. Examiner takes Official notice.

As to claim 16, Korschak also discloses other OFDM devices to transmit guard interval information (see [0026], figs. 4 and 5).

Claim 17. All the limitations are already discussed in the rejection of claims 1, 5 and 8 above.


Claims 18-19. Korschak discloses transmitting the recurrent channel delay spread knowledge updates to inform other nodes of the guard interval and determining which of the source or target nodes has the channel delay spread knowledge used to change the guard (see [0033]).

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakamura 9US 2004/0213145); Paulraj et al. (US 6,377,632); Park et al. (US 6,470,030); Sony International (EP 1182817).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M. Qureshi whose telephone number is (571) 272 3178. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Field Lynn can be reached on (571) 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


AFSAR QURESHI
PRIMARY EXAMINER

2/3/2007